1. All of the art rejections and double patenting rejections are maintained.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2004-265844 in view of Adhi et al, "Femtosecond Ultraviolet (248 nm) excimer laser processing of Teflon (PTFE)," Applied Surface Science, vol 218, 2003. Matsuda et al (US 2006/0251871) will be relied on as a translation of JP 2004-265844. Matsuda teaches a porous expanded polytetrafluoroethylene (ePTFE) material having a thickness of 10 to 200 microns with pore size of 0.1 microns and porosity of 60% (paragraphs 49, example 1). The ePTFE is expanded at least in one axial direction (paragraph 51). This reads on a stretched porous ePTFE. The ePTFE comprises fibrils and nodes connected to each other by the fibrils (paragraph 52). The ePTFE has microholes of about 15 microns in diameter (example 1). The microholes extend through the thickness of the material. Likewise, the microholes have a depth or a height ranging from 10 to 200 microns, which is within the claimed range. The microholes are formed by

laser drilling. Matsuda discloses the ePTFE material have been supported by the PTFE films during ablation. The microholes have clean and precise shapes without irregularities (paragraph 73). This at least indicates that the microporous structure of the wall surface of the microhole is substantially retained without being destroyed. Matsuda does not specifically disclose the use of femtosecond lasers to perform ablation of ePTFE material. Adhi, however, teaches femtosecond lasers allowing the PTFE material to be ablated to be very high precision and without damaging surrounding areas as a result of heat influence (abstract). Adhi discloses the femtosecond laser having a pulse length of 380 fs. Adhi teaches the laser-drilled holes produced with excellent edge quality, i.e., no charring or physical distortions seen in and around the microholes; no re-deposits of the ablated fragments in and around the microholes. Significant porosity is observed along the walls of the microholes, which is inherent to the PTFE films without the microholes. Likewise, it is clearly apparent that the wall surface of the microholes are substantially retained without being destroyed. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the femtosecond lasers to make the microholes within the ePTFE of Matsuda motivated by the desire to provide the microholes within high precision and without damaging surrounding areas of the material as a result of heat influence.

5. The art rejections over Matsuda in view of Adhi have been maintained for the following reasons. Applicants contend that the combined teachings do not teach

or suggest the wavelength ranging from 300 nm to 900 nm. However, it is a product-by-process limitation not as yet shown to produce a patentably distinct article. The same token is applied to the limitations of a support that is provided with a site coming into no contact with the stretched porous PTFE at a region corresponding to a target region of the stretched porous PTFE, in which the microhole is formed. It is the examiner's position that the article of Matsuda as modified by Adhi is identical to or only slightly different than the claimed article prepared by the method of the claim, because both articles are formed from the same materials, having structural similarity. Matsuda discloses that the microholes have clean and precise shapes without irregularities (paragraph 73). Further, Adhi teaches the laser-drilled holes produced with excellent edge quality, i.e., no charring or physical distortions seen in and around the microholes; no re-deposits of the ablated fragments in and around the microholes. Significant porosity is observed along the walls of the microholes, which is inherent to the PTFE films without the microholes. Accordingly, the wall surfaces of the microholes are substantially retained without being destroyed. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or an obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir.

1985). The burden has been shifted to the applicant to show unobvious differences between the claimed product and the prior art product. *In re Marosi,* 218 USPQ 289,291 (Fed. Cir. 1983). It is noted that if the applicant intends to rely on Examples in the specification or in a submitted Declaration to show non-obviousness, the applicant should clearly state how the Examples of the present invention are commensurate in scope with the claims and how the Comparative Examples are commensurate in scope with Matsuda/Adhi.

6. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kram et al (US 6,306,491) in view of Adhi et al, "Femtosecond Ultraviolet (248 nm) excimer laser processing of Teflon (PTFE)," Applied Surface Science, vol 218, 2003. Note that no supporting materials have been provided during ablation. That is, the microstructure of the opening portions on each side of the stretched porous expanded polytetrafluoroethylene (ePTFE) material are not significantly different. Kram teaches a porous ePTFE material having a thickness of 0.3 mm with pore sizes ranging from 0.5 to 10 microns (column 31, lines 35-55). The ePTFE comprises fibrils and nodes connected to each other by the fibrils. The ePTFE has microholes of about 200 microns in diameter. The microholes extend through the thickness of the material as shown in figure 16. Likewise, the microholes have a depth or a height of 300 microns, which is within the claimed range. The microholes are formed by laser drilling. Kram teaches the ePTFE made according with the teachings of Gore (US 3,953,566) which is incorporated herein by reference (column 31, lines 43-45). Gore is relied on as evidence to

show a state of fact - that is, the ePTFE has a porosity of 67%. Kram does not specifically disclose the use of femtosecond lasers to perform ablation of ePTFE material. Adhi, however, teaches femtosecond lasers allowing the PTFE material to be ablated to be very high precision and without damaging surrounding areas as a result of heat influence (abstract). Adhi discloses the femtosecond laser having a pulse length of 380 fs. Adhi teaches the laser-drilled holes produced with excellent edge quality, i.e., no charring or physical distortions seen in and around the microholes; no re-deposits of the ablated fragments in and around the microholes. Significant porosity is observed along the walls of the microholes, which is inherent to the PTFE films without the microholes. Accordingly, the wall surfaces of the microholes are substantially retained without being destroyed. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the femtosecond lasers to make the microholes within the ePTFE of Kram motivated by the desire to provide the microholes within high precision and without damaging surrounding areas of the material as a result of heat influence. It appears that Kram as modified by Adhi used the same femtosecond lasers to perform ablation of the ePTFE material as Applicants, therefore, it is the examiner's position that the microstructure structure of the wall surface of the microhole would be substantially inherently retained without being destroyed. Neither Kram nor Adhi teaches or suggest the claimed wavelength of the pulse laser and the use of the support during ablation; however, they are product-by-process limitations not as yet shown to produce a

patentably distinct article. It is the examiner's position that the article of Kram as modified by Adhi is identical to or only slightly different than the claimed article prepared by the method of the claim, because both articles are formed from the same materials, having structural similarity as discussed above. The ePTFE has a microstructure similar to that of the claimed ePTFE, i.e., the pore size, porosity within the claimed ranges. The microholes were made by ultrashort-pulse lasers. The microholes have a diameter, depth and height within the claimed ranges. Adhi teaches the laser-drilled holes produced with excellent edge quality, i.e., no charring or physical distortions seen in and around the microholes; no re-deposits of the ablated fragments in and around the microholes. Significant porosity is observed along the walls of the microholes, which is inherent to the PTFE films without the microholes. Accordingly, the wall surfaces of the microholes are substantially retained without being destroyed. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or an obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). The burden has been shifted to the applicant to show unobvious differences between the claimed product and the prior art product. *In re Marosi,* 218 USPQ 289,291 (Fed. Cir. 1983). It is noted that if the applicant intends to rely on Examples in the

specification or in a submitted Declaration to show non-obviousness, the applicant should clearly state how the Examples of the present invention are commensurate in scope with the claims and how the Comparative Examples are commensurate in scope with Kram as modified by Adhi.

7. The art rejections over Kram in view of Adhi have been maintained for the following reasons. Applicants argue that none of the cited references teach or suggest the wavelength and a support as presently claimed; therefore, the combined teachings of the references do not teach the microholes with the wall surfaces that are substantially retained without being destroyed. The examiner respectfully disagrees. In the first place, the wavelength and the support are product-by-process limitations not as yet shown to produce a patentably distinct article. Secondly, Adhi teaches the laser-drilled holes produced with excellent edge quality, i.e., no charring or physical distortions seen in and around the microholes; no re-deposits of the ablated fragments in and around the microholes. Significant porosity is observed along the walls of the microholes, which is inherent to the PTFE films without the microholes. This at least indicates that the wall surfaces of the microholes are substantially retained without being destroyed.
8. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over White et al (US 6,409,764) in view of Adhi et al, "Femtosecond Ultraviolet (248 nm) excimer laser processing of Teflon (PTFE)," Applied Surface Science, vol 218, 2003. White teaches a porous expanded polytetrafluoroethylene (ePTFE)

material having a thickness of 0.005 to 0.01 inches with an average pore size of 1.7 microns (column 20, lines 15-25). The ePTFE comprises fibrils and nodes connected to each other by the fibrils (column 20, lines 20-25). The ePTFE has microholes of about 300 microns in diameter (column 20, lines 50-60). The microholes extend through the thickness of the material as shown in figure 6. Likewise, the microholes have a depth or a height from 0.005 to 0.01 inches, which is within the claimed range. The microholes are formed by laser drilling. White teaches the ePTFE made according with the teachings of Gore (US 3,953,566) which is incorporated herein by reference (column 14, lines 55-60). Gore is relied on as evidence to show a state of fact - that is, the ePTFE has a porosity of 67%. White does not specifically disclose the use of femtosecond lasers to perform ablation of ePTFE material. Adhi, however, teaches femtosecond lasers allowing the PTFE material to be ablated to be very high precision and without damaging surrounding areas as a result of heat influence (abstract). Adhi discloses the femtosecond laser having a pulse length of 380 fs. Adhi teaches the laser-drilled holes produced with excellent edge quality, i.e., no charring or physical distortions seen in and around the microholes; no re-deposits of the ablated fragments in and around the microholes. Significant porosity is observed along the walls of the microholes, which is inherent to the PTFE films without the microholes. Accordingly, the wall surfaces of the microholes are substantially retained without being destroyed. Therefore, it would have been obvious to one having ordinary skill in the art at the time the

invention was made to use the femtosecond lasers to make the microholes within the ePTFE of White motivated by the desire to provide the microholes within high precision and without damaging surrounding areas of the material as a result of heat influence. It appears that White as modified by Adhi used the same femtosecond lasers to perform ablation of the ePTFE material as Applicants, therefore, it is the examiner's position that the microstructure structure of the wall surface of the microhole would be substantially inherently retained without being destroyed.

Neither White nor Adhi teaches or suggest the wavelength of the pulse laser and the use of the support during ablation; however, they are product-by-process limitations not as yet shown to produce a patentably distinct article. It is the examiner's position that the article of White as modified by Weber is identical to or only slightly different than the claimed article prepared by the method of the claim, because both articles are formed from the same materials, having structural similarity as discussed above. The ePTFE has a microstructure similar to that of the claimed ePTFE, i.e., the pore size, porosity within the claimed ranges. The microholes were made by ultrashort-pulse lasers. The microholes have a diameter, depth and height within the claimed ranges. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or an obvious from a product of the prior

art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). The burden has been shifted to the applicant to show unobvious differences between the claimed product and the prior art product. *In re Marosi,* 218 USPQ 289,291 (Fed. Cir. 1983). It is noted that if the applicant intends to rely on Examples in the specification or in a submitted Declaration to show non-obviousness, the applicant should clearly state how the Examples of the present invention are commensurate in scope with the claims and how the Comparative Examples are commensurate in scope with White as modified by Adhi.

9. The art rejections over White in view of Adhi have been maintained for the following reasons. Applicants argue that none of the cited references teach or suggest the wavelength and a support as presently claimed; therefore, the combined teachings of the references do not teach the microholes with the wall surfaces that are substantially retained without being destroyed. The examiner respectfully disagrees. In the first place, the wavelength and the support are product-by-process limitations not as yet shown to produce a patentably distinct article. Secondly, Adhi teaches the laser-drilled holes produced with excellent edge quality, i.e., no charring or physical distortions seen in and around the microholes; no re-deposits of the ablated fragments in and around the microholes. Significant porosity is observed along the walls of the microholes, which is inherent to the PTFE films without the microholes. This at least

indicates that the wall surfaces of the microholes are substantially retained without being destroyed.

Double Patenting

10. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

11. Claims 1-7 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-21 of copending Application No. 10/551,459 in view of Adhi et al, "Femtosecond Ultraviolet (248 nm) excimer laser processing of Teflon (PTFE)," Applied Surface Science, vol 218, 2003. Matsuda teaches that the microholes have clean and precise shapes without irregularities (paragraph 73). This at least indicates that the microporous structure of the wall surface of the microhole is substantially retained without

being destroyed. Matsuda does not specifically disclose the use of femtosecond lasers to perform ablation of ePTFE material. Adhi, however, teaches femtosecond lasers allowing the PTFE material to be ablated to be very high precision and without damaging surrounding areas as a result of heat influence (abstract). Adhi discloses the femtosecond laser having a pulse length of 380 fs. Adhi teaches the laser-drilled holes produced with excellent edge quality, i.e., no charring or physical distortions seen in and around the microholes; no re-deposits of the ablated fragments in and around the microholes. Significant porosity is observed along the walls of the microholes, which is inherent to the PTFE films without the microholes. Likewise, it is clearly apparent that the wall surface of the microholes are substantially retained without being destroyed. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the femtosecond lasers to make the microholes within the ePTFE of Matsuda motivated by the desire to provide the microholes within high precision and without damaging surrounding areas of the material as a result of heat influence.

Neither Matsuda nor Adhi teaches or suggest stretching, the claimed wavelength of the pulse laser and the use of the support as recited in the claims; however, they are product-by-process limitations not as yet shown to produce a patentably distinct article. It is the examiner's position that the article of Matsuda as modified by Adhi is identical to or only slightly different than the claimed article prepared by the method of the claim, because both articles are formed from the

same materials, having structural similarity as discussed above. The ePTFE has a microstructure similar to that of the claimed ePTFE, i.e., the pore size, porosity within the claimed ranges. The microholes were made by ultrashort-pulse lasers. The microholes have a diameter, depth and height within the claimed ranges. Adhi teaches the laser-drilled holes produced with excellent edge quality, i.e., no charring or physical distortions seen in and around the microholes; no re-deposits of the ablated fragments in and around the microholes. Significant porosity is observed along the walls of the microholes, which is inherent to the PTFE films without the microholes. Accordingly, the wall surface of the microholes are substantially retained without being destroyed. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or an obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). The burden has been shifted to the applicant to show unobvious differences between the claimed product and the prior art product. *In re Marosi,* 218 USPQ 289,291 (Fed. Cir. 1983). It is noted that if the applicant intends to rely on Examples in the specification or in a submitted Declaration to show non-obviousness, the applicant should clearly state how the Examples of the present invention are

commensurate in scope with the claims and how the Comparative Examples are commensurate in scope with Matsuda as modified by Adhi.

This is a provisional obviousness-type double patenting rejection.

12. The double patenting rejections have been maintained for the same reasons set forth in paragraph no. 5.

Conclusion

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Vo whose telephone number is (571) 272-1485. The examiner can normally be reached on Monday through Thursday, from 9:00 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Hai Vo/
Primary Examiner, Art Unit 1794